



## **SOIL MANAGEMENT PLAN**

Former Pechiney Cast Plate, Inc. Facility

Vernon, California

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# **SOIL MANAGEMENT PLAN (SMP)**

## **Former Pechiney Cast Plate, Inc. Facility**

### **Vernon, California**

#### **1.0 INTRODUCTION**

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler; formerly AMEC), has prepared this soil management plan (SMP) on behalf of Pechiney Cast Plate, Inc. (Pechiney), for the former Pechiney property located at 3200 Fruitland Avenue, in Vernon, California (the site; Figure 1). The former Pechiney property has been subdivided into two - properties known as the North Property (Assessor Parcel Numbers [APNs] 6310-008-020 and 6310-008-021) and the South Property (APNs 6310-008-010, 6310-008-011, and 6310-008-019) as shown on Figure 2.

The North Property encompasses approximately 633,191 square feet of real estate and the South Property encompasses approximately 552,715 square feet of real estate. The future uses of the North Property and the South Property will consist of commercial/industrial land use. The future uses may include warehouse distribution center and industrial manufacturing.

The SMP is intended to be a plan that describes the protocols for handling and managing soil, including soil containing residual concentrations of chemicals of concern (COCs) following site remediation that may be encountered during future site grading and construction conducted during redevelopment of the respective properties. Depending on the timing of the planned redevelopments, this SMP may need to be revised to reflect the current state of development of the property, current state and federal requirements, and current property conditions.

#### **2.0 SITE BACKGROUND AND REMEDIATION GOALS**

Remedial investigations conducted at the site identified volatile organic compounds (VOCs), petroleum hydrocarbons (as Stoddard solvent), polychlorinated biphenyls (PCBs), and metals (primarily arsenic) in soil; VOCs and Stoddard solvent in soil vapor; and PCBs in concrete building floor slabs at concentrations of potential concern. The investigations also identified VOCs, including trichloroethene and tetrachloroethene, in groundwater beneath the site. Groundwater within the first water-bearing unit is present at a depth of approximately 140 to 150 feet. Remedial investigation and screening level human health risk assessment (HHRA) findings for the site are summarized in the Feasibility Study (AMEC, May 2012). Based on the HHRA, site-specific remediation goals were established for the COCs in soil vapor, and soil at the site assuming that the future land use would be for commercial/industrial purposes. The site-specific soil remediation goals are summarized in Table 1.

Pursuant to a July 2010 Imminent and Substantial Endangerment Determination and Consent Order, a Remedial Action Plan (as amended, the "RAP") was prepared and implemented to mitigate concrete, soil, and groundwater impacts at the site under the oversight of the Department of Toxic Substances Control (DTSC). Pursuant to the Code of Federal Regulations (CFR), Title 40, Subchapter R, Toxic Substances Control Act (TSCA), the US Environmental Protection Agency (US EPA) has oversight for PCB-impacted soil and concrete. Mitigation of the PCB-impacted concrete and soil was approved by the US EPA. Based on site-specific remediation goals developed for COCs present in concrete and soil at the site, these impacted media were mitigated to meet the site-specific remediation goals presented in the RAP. Remediation of VOC-impacted soil on the Northern Property and Stoddard solvent-impacted soil on the Southern Property is being mitigated by soil vapor extraction (SVE) and SVE/bioventing, respectively. Groundwater monitoring is also ongoing at the site. The well fields for the SVE and SVE/bioventing areas and existing groundwater monitoring wells are shown on Figure 3.

As detailed in the Completion Reports (AMEC, 2014a, b, c, and d), soil within portions of the site, to a depth of 15 feet or more below the native grade, contain hazardous substances, which include the COCs listed in Section 4.0 below. Native grade was relative to the elevation of the asphalt surface that runs along the eastern side of the site. Native grade elevations used are shown on Figure 2. Soil removals completed at the site during the implementation of the RAP are summarized below by Phase area, and residual concentrations of COCs remain in place below the remediation goals.

- Phase I Area - soil removals were conducted for PCBs and for isolated occurrences of total petroleum hydrocarbons (TPH) in soil (based on field conditions, proximity to below grade structures that were removed, or due to the presence of PCBs). The approximate vertical extent of the soil removals range from an elevation of 185 to 167 feet mean sea level (MSL).
- Phase II - soil removals were conducted for PCBs and metals and for isolated occurrences of TPH in soil. The approximate vertical extent of the soil removals range from an elevation of 186 to 159 feet mean sea level (MSL).
- Phase III, IV, and VI Areas - soil removals were conducted for PCBs and metals (arsenic) and for isolated occurrences of TPH in soil (based on field conditions, proximity to below grade structures that were removed, or due to the presence of PCBs). Soil impacted with TPH and Stoddard solvent was not removed in the area where SVE/bioventing is being used to address TPH- (as Stoddard solvent) and associated VOC-impacted soils; and some soil containing TPH was removed in the Phase IV Area. The approximate vertical extent of the soil removals range from an elevation of 185 to 171 feet mean sea level (MSL).

- Phase V - soil removals were conducted for metals, PCBs and TPH. The approximate vertical extent of the soil removals range from an elevation of 176 to 174 feet mean sea level (MSL).

In addition, soil remains in place at depths greater than 15 feet below native grade with PCB concentrations above 23 milligrams per kilogram (mg/kg). As approved by US EPA, these areas are covered with a physical underground warning barrier (UWB) that consists of concrete slurry covered with an orange fabric. The locations of these UWBs are shown on Figure 4, along with the average top elevations of the UWBs. The maximum total PCB concentrations detected in soil, concrete and/or fill material that remains below the UWBs are shown on Figure 4, and summarized below. Survey information for the UWBs is included in Appendix A.

Structure Identification	Total Maximum PCB Concentration below an UWB milligrams/kilogram (mg/kg)		
	Concrete	Soil	Pea Grave/Fill
Concrete Cover in Area 4A/4B	Not Applicable (NA)	2000	NA
FDC#4 / Area 4B	4600	NA	12
North Concrete Cover	NA	530	NA
South Concrete Cover	NA	1775	NA
Concrete Cover in Area C	NA	73.6	NA

The Completion Reports (AMEC, 2014a, b, c, and d), also provided documentation of the below demolition work conducted at the site. The below grade demolition work included the removal of footings, foundations, structures (in the upper 10 feet), and underground utilities (within the upper 3 feet). Locations where structures were left in place at a depth of 10 feet relative to native grade are shown on Figure 4, along with the average elevation of the top of the concrete cover placed over the structure. The maximum total PCB concentrations detected in concrete and/or fill material of the structure that remains below the concrete cover is shown on Figure 4, and summarized on the next page. Survey information for the deeper structures is included in Appendix A.

Structure Identification	Total Maximum PCB Concentration Associated with a Structure Left in Place milligrams/kilogram (mg/kg)		
	Concrete	Soil	Pea Grave/Fill
FDC#1	0.069	Not Applicable (NA)	NA
Structure 142 – Swindell Pits	Not Detected	NA	Not Detected
Structure 827 – Swindell Pits	Not Detected	NA	Not Detected
Structure 1A (Northeast Area)	3.6	NA	NA
Structure 1C (Northeast Area)	2.0	NA	NA

### 3.0 REDEVELOPMENT AND CONSTRUCTION ACTIVITIES

The site is currently graded for storm water controls, fenced, and vacant. The site grade and post-demolition storm water controls in place at the site are shown on Figure 5. As part of the below grade demolition work, concrete containing PCBs at concentrations less than or equal to 1 mg/kg (to non-detect levels) was crushed onsite and used as backfill and surface cover in portions of the site. The areas where crushed concrete was used in this manner is shown on Figure 6.

Redevelopment will likely include a warehouse distribution center (Southern Property) and industrial manufacturing facility (North Property). In either case, redevelopment may require over-excavation and recompaction of site soils (including native soil and imported soils); construction excavations for footings, foundations and utility corridors; and/or import of fill soils for structural or other purposes. If imported fill is needed, the import fill requirements shall meet those described in Section 5.5. If impacted soils (based on visual staining, odors or other observations) are encountered during earthwork (grading or excavations), the soil must be managed for potential off-site disposal or stockpiled for potential onsite re-use as described in Section 5.3.

### 4.0 CHEMICALS OF CONCERN

This section described the COCs that may be present at the site, and impacted soil may be encountered during site grading, construction, and redevelopment work. The COCs that may be encountered in soil include:

- Total petroleum hydrocarbons (TPH and Stoddard solvent);
- PCBs;

- VOCs, such as chloroform, PCE and TCE in the North Property area, and 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene in the South Property area; and
- Metals (primarily arsenic).

The areas of the site where these COCs remain in place in soil after implementation of the RAP are shown on Figure 7. Soil may be encountered with COCs above the remediation goals in areas where SVE or SVE/bioventing are in progress, and these areas are also shown on Figure 7. The presence of these COCs in soil at the site shall be considered during site grading and construction excavation. In consideration of the depth to groundwater (140 to 145 feet below grade), groundwater management during construction is not anticipated; but will be decided on a project-specific basis.

## 5.0 SOIL MANAGEMENT

This section provides procedures for monitoring, soil testing, equipment decontamination, managing and testing of soil stockpiles, import fill soil requirements, site access, and agency notifications, all of which shall need to be implemented in the event earthwork is being conducted in areas with residual COCs remaining at concentrations below or above the remediation goals (Table 1), or if impacted soil (based on visual staining, odors, or other observations) is encountered during redevelopment.

### 5.1 SOIL AND CONCRETE CONTAINING PCBs AND OTHER COCs

For the site, where PCBs were a COC, remediation goals were established for PCBs at a certain depth intervals, ground surface to 5 feet below native grade (above 178 feet mean sea level [MSL]), 5 feet to 15 feet below native grade (178 to above 168 feet MSL), and below 15 feet below native grade (below or equal to 168 feet MSL). *(Note - The native grade surface elevation of 178 feet MSL in the Phase V area is lower than the remainder of the site, and depth intervals for this Phase area began at native grade).* Refer to Figure 2 for the native grade surface elevations used for the PCB depth intervals in each phase area. Because these remediation goals are depth-specific relative to native grade, earthwork must be conducted in a manner in which soil from each respective layer is not mixed with a layer that contains soil mitigated to a less-restrictive remediation goal. Restated, deeper soil intervals shall not be mixed or co-mingled with a shallower soil interval and placed in the shallower interval ("segregation approach").

Soil within the upper 5 feet relative to native grade (above 178 feet MSL) may contain PCBs at concentrations below 3.5 mg/kg, and for this depth interval soil may be disturbed during site grading with no further sampling or onsite management, including those areas designated as landscaped areas. Areas where disturbance occurs shall be documented and surveyed.

As an alternative to the segregation approach, soil between 5 feet and above 15 feet (relative to native grade; interval of 178 feet MSL to above 168 feet MSL) that is disturbed during site grading or during construction of footing, foundations, or utility trenches may be consolidated and placed under the footprint of a building slab or concrete paved area (referred to as a “cap” with a minimum concrete thickness of 6-inches). In doing so, the soil under the cap shall be designated as containing total PCBs at a concentration of 23 mg/kg (the remediation goal for the 5 to 15 foot depth interval relative to native grade). The PCB-impacted soil consolidated under the cap shall be covered with a warning membrane, such as the orange fabric used for the UWBs, or other similar material. If the soil placed under the cap is further disturbed during construction activities (trenching, etc.), additional soil testing for total PCBs shall be conducted to verify that the PCB concentrations in soil do not exceed 23 mg/kg.

In addition, soil consolidated under the cap shall not include soil from a depth of greater than 15 feet relative to native grade (168 feet MSL). Soil at depths greater than 15 feet relative to native grade shall be designated as containing total PCBs at a concentration greater than or equal to 50 mg/kg.

The cap, inspections of the cap, record keeping, and future repairs to the cap shall meet the requirements of 40 CFR 761.61(a)7. A restrictive land use covenant (LUC) recording for the cap and underlying soil shall meet 40 CFR 761.61(a)8, and will not require a low occupancy area designation specified in 40 CFR 761.61(a)(8)(i)(A)(1) or the associated low occupancy certification specified in 40 CFR 761.61(a)(8)(i)(B). The installed overlying warning membrane and areas where these soils are consolidated shall be documented and surveyed, and the survey information shall be added to the LUC.

In the area of the UWBs (at a depth of 15 feet or greater (at 168 feet MSL or deeper; Figure 4), soil (or concrete) remains in place below the UWB with PCBs concentration above the site-specific remediation goals. The UWB or underlying soil shall not be disturbed or moved. If these areas are disturbed, then soil and concrete shall be removed for disposal based on in situ total PCB concentrations recorded during the implementation of the RAP, as summarized in Section 2.0 above and noted on Figure 4.

In addition, crushed concrete that was used on site as backfill and surface cover may contain PCBs at concentrations less than or equal to 1 mg/kg (Figure 5). These materials shall be maintained onsite.

Soils containing other COCs, such as TPH (and/or Stoddard solvent), VOCs, or metals, shall be maintained in the area where the soil is disturbed and not relocated to another area or other portion of the site that is not impacted.

## **5.2 MONITORING REQUIREMENTS**

This section describes monitoring measures for future site work where visibly stained soil or odors are observed or where potentially TPH- or VOC-impacted soils may be discovered or encountered in areas shown on Figure 7 during site grading and construction excavation. Control and monitoring methods for VOC emissions (if encountered) and dust generation are included in this section. While these elements are discussed in this section, all other potentially applicable laws and regulations shall be considered prior to beginning earthwork at the site.

### **5.2.1 SCAQMD Rule 1166 Requirements**

Soil at the site may require VOC monitoring in accordance with South Coast Air Quality Management District requirements (e.g., SCAQMD Rule 1166). Monitoring for the presence of VOC-impacted soil and implementing a VOC-impacted soil mitigation plan approved by the SCAQMD Executive Officer will be required if VOC-impacted soil is encountered during grading and excavation work. A copy of the plan must be on site during the entire excavation period, and the provisions for monitoring and reporting under the Rule 1166 permit/plan must be implemented. The following vapor or odor mitigation measures may be implemented if real-time air monitoring exceeds an action level or if odors are encountered that requires mitigation from a health and safety perspective:

- Cover subject soil with clean soil or plastic sheeting;
- Reduce the pace of work;
- Reduce size of area being excavated; and/or
- Apply vapor suppression.

Construction procedures or vapor/odor control measures may be altered based on observations of the effectiveness of such measures. Work must stop until such measures are improved or additional or more effective measures are employed. Additional air monitoring may be conducted to confirm the effectiveness of emission reduction activities.

### **5.2.2 Fugitive Dust**

Dust and odor control measures during site grading and excavation shall be implemented to prevent airborne dust from leaving the site boundary, in accordance with SCAQMD regulations. Conditions shall be evaluated and the adequacy of dust control measures, as based on real-time monitoring and SCAQMD Rule 403, shall be evaluated. The following dust mitigation measures may be implemented if real-time monitoring for fugitive dust exceeds the action level or if observations of visible dust emissions at the site boundary are made.

- Apply water spray or mist during activities such as excavation or stockpile management to minimize the generation of visible dust;
- Have a water supply available continuously;
- Cover soil stockpiles;
- Minimize open excavations;
- Use tarpaulin or other covers for truck carrying soils that travel on public streets;
- Keep the drop heights to a minimum, during the handling of materials or loading of transportation vehicles;
- Keep vehicle speeds on the property below 5 miles per hour; and
- Reduce the pace of work.

Construction procedures or dust control measures may be altered based on observations of the effectiveness of such measures. Work must stop until such measures are improved or additional or more effective measures are employed. Additional air monitoring may be conducted to confirm the effectiveness of emission reduction activities.

### **5.2.3 Storm Water Controls**

Prior to construction activities, the contractor, in cooperation with the property owner, shall obtain a general construction permit for storm water and erosion control measures under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ (General Permit).

During construction activities, the contractor shall implement a Storm Water Pollution Prevention Plan (SWPPP).

### **5.3 SOIL TESTING AND EQUIPMENT DECONTAMINATION**

If impacted soil is observed (based on visual staining, odors, or other observations or from areas shown on Figure 7), soil sampling and analysis for TPH, PCBs, metals and VOCs shall be conducted to assess the presence of these COCs at concentrations above the remediation goals (Table 1). If impacted soil is encountered that exceeds the soil remediation goals and to the extent the impacted soil requires excavation and offsite disposal, additional soil sampling shall be conducted under the supervision of a Professional Geologist (PG) or Civil Engineer (PE) registered in the State of California experienced in performing environmental investigations.

The number of, and the methods used to collect the soil samples and the analyses to be performed shall be selected in the field by the supervising PG or PE. The analytical suite shall be selected based on field observations, and may include the following test methods:

- TPH with carbon chain range quantification (TPHcc) using EPA Method 8015M (Modified);
- PCBs using EPA Method 8082 (using soxhlet extraction method 3540C);
- Metals using EPA Methods 6010B/7242; and
- VOCs using EPA Method 8260B and field preservation Method 5035.

Samples shall be collected in glass jars or brass tubes, which shall be sealed, uniquely labeled, and stored in an ice chest filled with ice to keep the samples chilled. The samples shall be shipped to an analytical laboratory accredited by the California State Water Resources Control Board Environmental Laboratory Accreditation Program using chain of custody procedures.

Re-useable sampling equipment (hand augers, shovels, etc.) will be decontaminated using the following steps to reduce the potential for cross-contamination.

1. wash and scrub in non-phosphate detergent and potable water;
2. rinse in potable water; and
3. rinse in DI water and air dry

Investigation derived residuals, including decontamination water, shall be managed in accordance with regulatory requirements.

If PCBs are detected (or suspected) in soil, re-usable sampling equipment shall be decontaminated in accordance with 40 CFR 761.79. Liquid decontamination waste shall be handled in accordance with 40 CFR 761.79.

#### **5.4 STOCKPILE MANAGEMENT AND TESTING**

During site grading or construction excavation work, excess soil spoils, including COC-impacted soil, may be generated that require temporary stockpiling. Stockpiled soil may either be returned to the soil interval from which the soil was encountered or may be transported off site for disposal.

If COC-impacted soil is encountered, the excavated COC-impacted soil shall be stockpiled on plastic sheeting with a minimum thickness of 10 mils to reduce the potential for spreading

contamination on surface soil. Stockpiles shall be covered at the end of the work day with plastic sheeting to reduce the potential for erosion or direct contact with storm water and to prevent unauthorized access. Plastic sheeting shall be weighted down to prevent the pile from being uncovered by wind. In addition to plastic sheeting covers, stockpiles should be managed to minimize migration of contaminated soils, and may include proper sloping to prevent run-on and infiltration of storm water, appropriate compaction to maintain stockpile integrity, and adequate security for the site to deter trespassers.

Stockpiled soil containing total PCBs at concentrations greater than 50 mg/kg or higher must be stored in accordance with 40 CFR 761.65. Soil containing PCBs shall be stored on site no longer than 30 days.

If the stockpiled, COC-impacted soil is to be transported off site for disposal, the soil shall be profiled for waste characteristics. For disposal purposes and profiling for PCBs, soil samples shall be collected in-place (e.g., in-ground) for PCBs prior to excavation (not from stockpiles). For other COCs (TPH, VOCs or metals), stockpile samples may be collected for waste profiling purposes. Waste profiling shall consist of collecting soil samples (in-ground or from stockpiles) for laboratory analyses at the following minimum frequency.

- One sample per 100 cubic yards excavated or less.
- Three samples per 100 to 500 cubic yards excavated.
- One sample per 500 cubic yards excavated up to 2500 cubic yards, and then above 2500 cubic yards, one sample per 2500 cubic yards.

Sampling shall be conducted in conformance with the procedures stipulated by the supervising PG or PE. Soil samples shall be analyzed for the following constituents.

- TPH with carbon chain range quantification (TPHcc) using EPA Method 8015M (Modified);
- VOCs using EPA Method 8260B and field preservation Method 5035;
- PCBs using EPA Method 8082 (using soxhlet extraction method 3540C); and
- Metals using EPA Methods 6010/7242.

Other analyses may be required contingent on waste profiling requirements, receiving facility requirements, or other regulatory directives.

## **5.5 SITE ACCESS**

Vehicle and personnel access to areas where potentially impacted soils (based on visual staining, odors, or other observations or from areas shown on Figure 7) are encountered shall be controlled. Caution tape, cones, fencing, steel plates, or other appropriate measures shall be used to clearly designate the active area and to prevent access by the public. Stockpiles of potentially impacted soil shall be secured to prevent unauthorized access.

## **5.6 IMPORT FILL SOIL REQUIREMENTS**

If needed, any off-site soils brought to the site for use as backfill (import fill) must be tested in general conformance with the Department of Toxic Substances Control (DTSC), Information Advisory Clean Imported Fill Material document (DTSC, 2001). Import fill shall be tested for target compounds based on the location of the fill source area; however, as a minimum, the fill should be tested for the following constituents.

- TPHcc using EPA Method 8015;
- VOCs using EPA Method 8260B;
- PCBs using EPA Method 8082 (using soxhlet extraction method 3540C); and
- Title 22 metals using 6010B/7242.

Other analyses may be required contingent on the source of the import fill or recommendations by the supervising PG or PE. A minimum of one sample for laboratory analysis is suggested per 1000 tons of import fill per borrow site (single source). For quantities above 5000 tons of import fill per borrow site (single source), one sample for laboratory analysis is suggested per 5000 tons of import fill. For PCBs, import soil shall contain less than 1 mg/kg of total PCBs.

## **5.7 AGENCY NOTIFICATIONS**

DTSC shall be notified in the event that impacted soil is encountered in areas beyond what is identified on Figure 7 during site grading or construction activities. If PCBs are detected in soil (in-situ) at concentrations greater than 50 mg/kg, US EPA shall be notified. Notification shall be provided by phone followed by electronic mail describing the area and impacted soil encountered.

## **6.0 HEALTH & SAFETY REQUIREMENTS**

Project personnel shall comply with all applicable federal, state, and local regulations, as well as the State of California Construction Safety Orders (Title 8). Additionally, if COC-impacted soil is encountered, personnel working in the COC impacted area must comply with

Occupational Safety and Health Administration (OSHA) regulations specified in 29 CFR 1910.120 and CCR Title 8, Section 5192. A site-specific health and safety plan shall be prepared prior to the start of earth work.

## **7.0 LIMITATIONS**

This SMP does not address topics related to other chemicals or media that may be encountered during a redevelopment or future site activities, including but not limited to, demolition and construction debris, asphalt, concrete, asbestos-containing materials, and other affected media. If such materials are encountered, contractors and workers are responsible for complying with all applicable laws pertaining to the handling and disposal of these materials.

In preparing this SMP, Amec Foster Wheeler has relied upon certain information and representations obtained from documents prepared by others. To the extent that recommendations are based in whole or in part on such information, those conclusions are contingent on its accuracy and validity. Amec Foster Wheeler assumes no responsibility for any consequences arising from any information or condition that was concealed, withheld, misrepresented, or otherwise not fully disclosed or available to Amec Foster Wheeler.

This SMP is based on current known site conditions and current laws, policies and regulations. No representation is made to any present or future developer or property owner of the site, or portions of the site with respect to future site conditions, other than those specifically identified within this document.

Amec Foster Wheeler disclaims any responsibility for any unintended or unauthorized use of this SMP. Amec Foster Wheeler has not made any commitment to, or assumed any obligation or liability to any present or future developer, property owner, tenant, consultant, agent, contractor, user or other party owning or visiting the Site or portion of the Site based upon or arising out of implementation of this SMP. It is expressly understood that while this SMP is intended to provide guidance and establish a framework for the management of residual chemicals in deeper soils to protect human health and the environment, this SMP shall not create any warranties or obligations to Amec Foster Wheeler as to implementation, adequacy, or success of protective measures under this SMP.

## 8.0 REFERENCES

- AMEC Environment & Infrastructure, Inc. (AMEC), 2012a, Feasibility Study, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, May 7.
- AMEC, 2012b, Remedial Action Plan, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, June 28.
- AMEC, 2013a, Final Phase I Completion Report, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, June 6 then revised November 13.
- AMEC, 2013b, Phase V Completion Report, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, September 26.
- AMEC, 2013c, Phase III, IV, and VI Completion Report, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, October 7.
- AMEC, 2013d, Phase II Completion Report, Former Pechiney Cast Plate, Inc. Facility, 3200 Fruitland Avenue, Vernon, California, November 7.
- Department of Toxic Substances Control, 2001, Information Advisory Clean Imported Fill Material.

## TABLE

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TABLE 1

**SITE-SPECIFIC REMEDIATION GOALS -  
PCBs IN SOIL AND CONCRETE, AND METALS AND TPH IN SOIL**  
Former Pechiney Cast Plate, Inc. Facility  
Vernon, California

Compound	Remediation Goal (mg/kg)	Explanation
<b>PCBs in Soil</b>		
Aroclor-1254	2.0	Noncarcinogenic RBSL <sup>1</sup> for construction workers. Also protective of commercial/industrial worker exposure.
Total Aroclors <i>For soil that may be left exposed at the surface (0 to 5 feet bgs)</i>	3.5	Based on the regression analysis for dioxin-like PCB congeners versus total Aroclors in combined soil and concrete presented in Appendix E of the FS (AMEC, 2012a), the total Aroclor concentration that would result in a maximum dioxin TEQ concentration of 81 pg/g. <sup>2</sup> Protective of cumulative commercial/industrial worker exposure, and cumulative construction worker exposure, to PCBs.
Total Aroclors <i>For subsurface soil (5 to 15 feet bgs) that only construction workers may come into contact with during excavation, grading, etc. (and that would remain at 5 to 15 feet bgs)</i>	23	Based on the regression analysis for dioxin-like PCB congeners versus total Aroclors in combined soil and concrete presented in Appendix E of the FS (AMEC, 2012a), the total Aroclor concentration that would result in a maximum dioxin TEQ concentration of 530 pg/g. <sup>3</sup> Protective of cumulative construction worker exposure to PCBs.
<b>PCBs in Concrete</b>		
Total Aroclors	1.0* 3.5	Based on the regression analysis for dioxin-like PCB congeners versus total Aroclors in combined soil and concrete presented in Appendix E of the FS (AMEC, 2012a), the total Aroclor concentration <b>3.5 mg/kg</b> that would result in a maximum dioxin TEQ concentration of 81 pg/g. Also protective of cumulative construction worker exposure to PCBs. Applying this remediation goal ensures that waste criteria for concrete containing PCBs is also met [i.e., less than 50 mg/kg, as defined in 40 CFR Section 761.61(a)(4)(i)(A)].  * The remediation goal for concrete was reduced to a concentration greater than <b>1 mg/kg</b> to eliminate the placement of "Restricted Fill" onsite. As presented in the FS, Restricted Fill was defined as concrete with PCBs at concentrations greater than 1 mg/kg and less than or equal to 3.5 mg/kg.
<b>Metals in Soil</b>		
Arsenic	10	Site-Specific Background Concentration in Soil, established as described in Appendix B of the FS (AMEC, 2012a).
Chromium	25	Site-Specific Background Concentration in Soil, established as described in Appendix B of the FS (AMEC, 2012a).
Lead	320	RBSL in Soil for Outdoor Commercial/Industrial Worker, established as described in Appendix C of the FS (AMEC, 2012a).

TABLE 1

**SITE-SPECIFIC REMEDIATION GOALS -  
PCBs IN SOIL AND CONCRETE, AND METALS AND TPH IN SOIL  
Former Pechiney Cast Plate, Inc. Facility  
Vernon, California**

Compound	Remediation Goal (mg/kg)	Explanation
<b>TPH in Soil</b>		
c5-c10 hydrocarbons, c6-c10 hydrocarbons, c7-c12 hydrocarbons, and Stoddard solvent	500	Screening Level for the Protection of Groundwater for TPH gasoline range (c4-c12) from the Los Angeles RWQCB Guidebook. <sup>4</sup>
c10-c20 hydrocarbons and c10-c28 hydrocarbons	1000	Screening Level for the Protection of Groundwater for TPH diesel range (c13-c22) from the Los Angeles RWQCB Guidebook. <sup>4</sup>
c21-c28 hydrocarbons	10,000	Screening Level for the Protection of Groundwater for TPH as residual fuel (c23-c32) from the Los Angeles RWQCB Guidebook. <sup>4</sup>

**Notes**

1. Developed based on the methodology described in Appendix C of the FS (AMEC, 2012), RBSLs were used to conduct the screening-level human health risk assessment for the Site.
2. Based on the carcinogenic RBSL for dioxin-like PCB congeners for outdoor commercial/industrial workers (8.1 pg/g TEQ), adjusted to a target cancer risk of 10<sup>-5</sup>.
3. Based on the carcinogenic RBSL for dioxin-like PCB congeners for construction workers (53 pg/g TEQ), adjusted to a target cancer risk of 10<sup>-5</sup>.
4. Los Angeles RWQCB Interim Site Assessment and Cleanup Guidebook (RWQCB Guidebook, May 1996; updated May 2004), for petroleum hydrocarbons and aromatic hydrocarbons (benzene, toluene, ethylbenzene, and total xylenes [BTEX] compounds) in soil. The selected screening levels were taken from Table 4-1 assuming distance above groundwater is 20 to 150 feet.

**Abbreviations**

bgs = below ground surface  
CFR = Code of Federal Regulations  
FS = Feasibility Study  
mg/kg = milligrams per kilogram  
PCBs = polychlorinated biphenyls  
pg/g = picograms/gram

RBSL = risk-based screening level  
RWQCB = California Regional Water Quality Control Board  
TEQ = toxic equivalent  
TPH = total petroleum hydrocarbons

## FIGURES

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Drawing Path: Y:\10627.003\0ACAD\REPORTS-2015\SOIL\_MGT\_REPORT-2015-08-26\_TB-001\_SITE LOCATION MAP.DWG, Figure 1-Site Location Map



Basemap modified from Street Map provided by Esri, HERE, DeLorme, USGS, Intermap, NRCAN, TomTom,

**SITE LOCATION MAP**  
**Former Pechiney Cast Plate, Inc. Facility**  
**3200 Fruitland Avenue**  
**Vernon, California**



Date: 10/15/2015

Project No. 10627.003

Figure

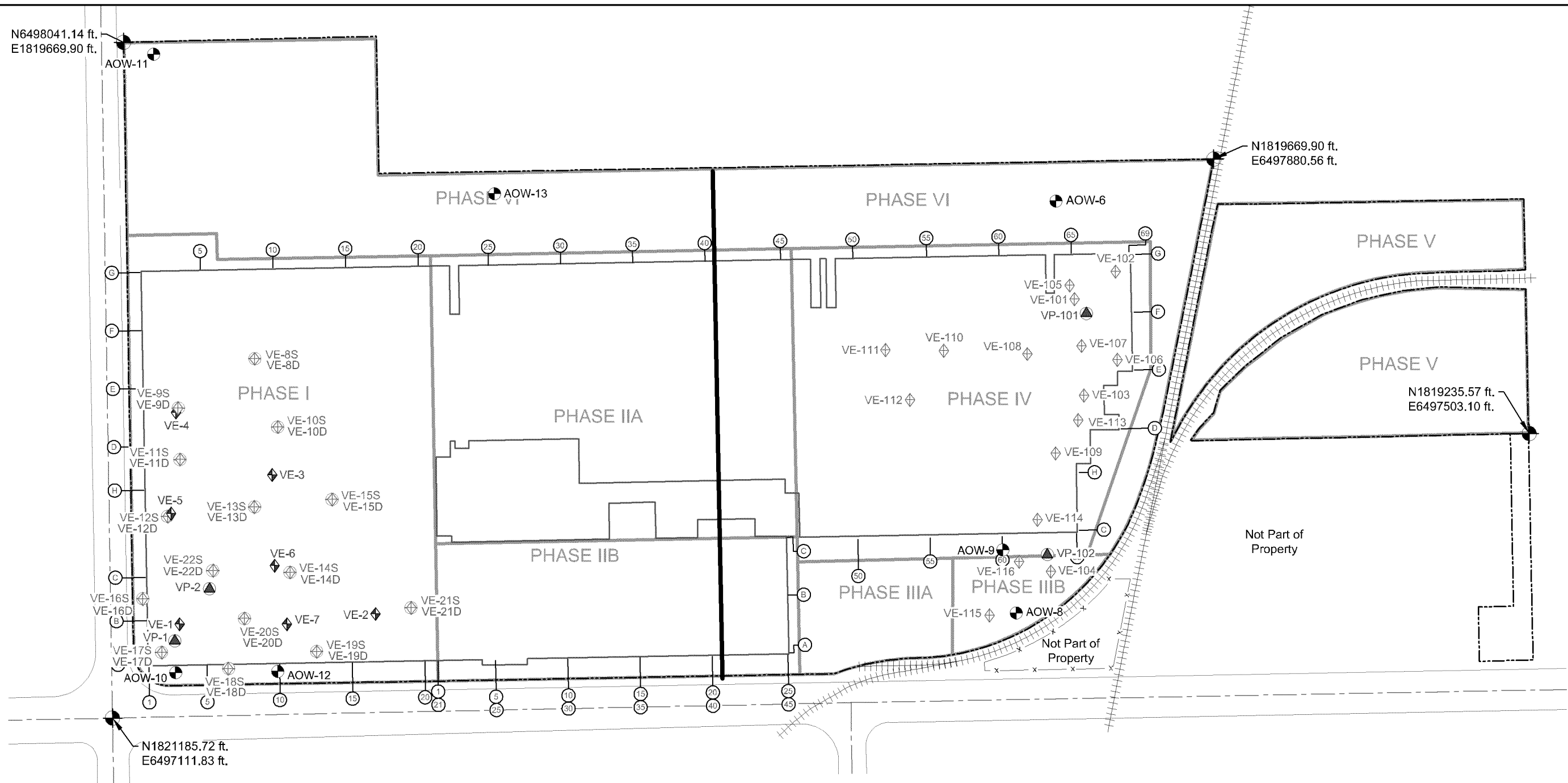
Submitted By: lc

Drawn By: pah

**1**



Plot Date: 10/15/2015 5:46:35 PM. Plotted by: pat.herring  
Drawing Path: Y:\110627\_003\_OceanReports-2015\Soil\_Mgt\_Report-2015-08-26th\_002-Underground Warning Barriers.dwg. Figure 3-SVE and MW locations



**Explanation**

- AOW-12** Groundwater monitoring well location
- VE-22S** Shallow SVE well location (above fine-grained unit to maximum depth of ~24 feet)
- VE-22D** Deeper SVE well location (above fine-grained unit to maximum depth of 47 feet)
- VE-7** Deeper SVE well location (below fine-grained unit to maximum depth of 90 feet)
- VP-2** Multi-nested vapor monitoring probe location
- Site boundary
- Phase boundary
- North-south property boundary
- Chain link fence
- Railroad tracks
- Former building pad
- Former building column and row numbering system

**Benchmark:**

Vertical Datum NAVD88

County of Los Angeles BM #Y10598, 2" Disc in walk  
4.6' N/O CF, 14.8' W/O BCR at NE COR Slauson Avenue and  
Boyle Avenue (to the N) MKD (City of Vernon MON)

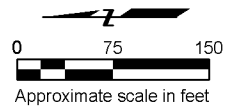
2005 Elev= 168.611 Feet NAVD88

Horizontal Datum NAD83, Zone 5

NGS PID Stations AJ1840 and AJ1885 EPOCH DATE 2000.35

**Note:**

Groundwater monitoring wells AOW-MW-6, AOW-MW-8,  
AOW-MW-9, and AOW-MW-10 were surveyed October 9, 2014,  
2015. Groundwater monitoring wells AOW-MW-11,  
AOW-MW-12, and AOW-MW-13 were surveyed April 13, 2015.  
Soil vapor extraction wells and soil vapor probe locations were  
surveyed March 31, 2015. All other locations are approximate.

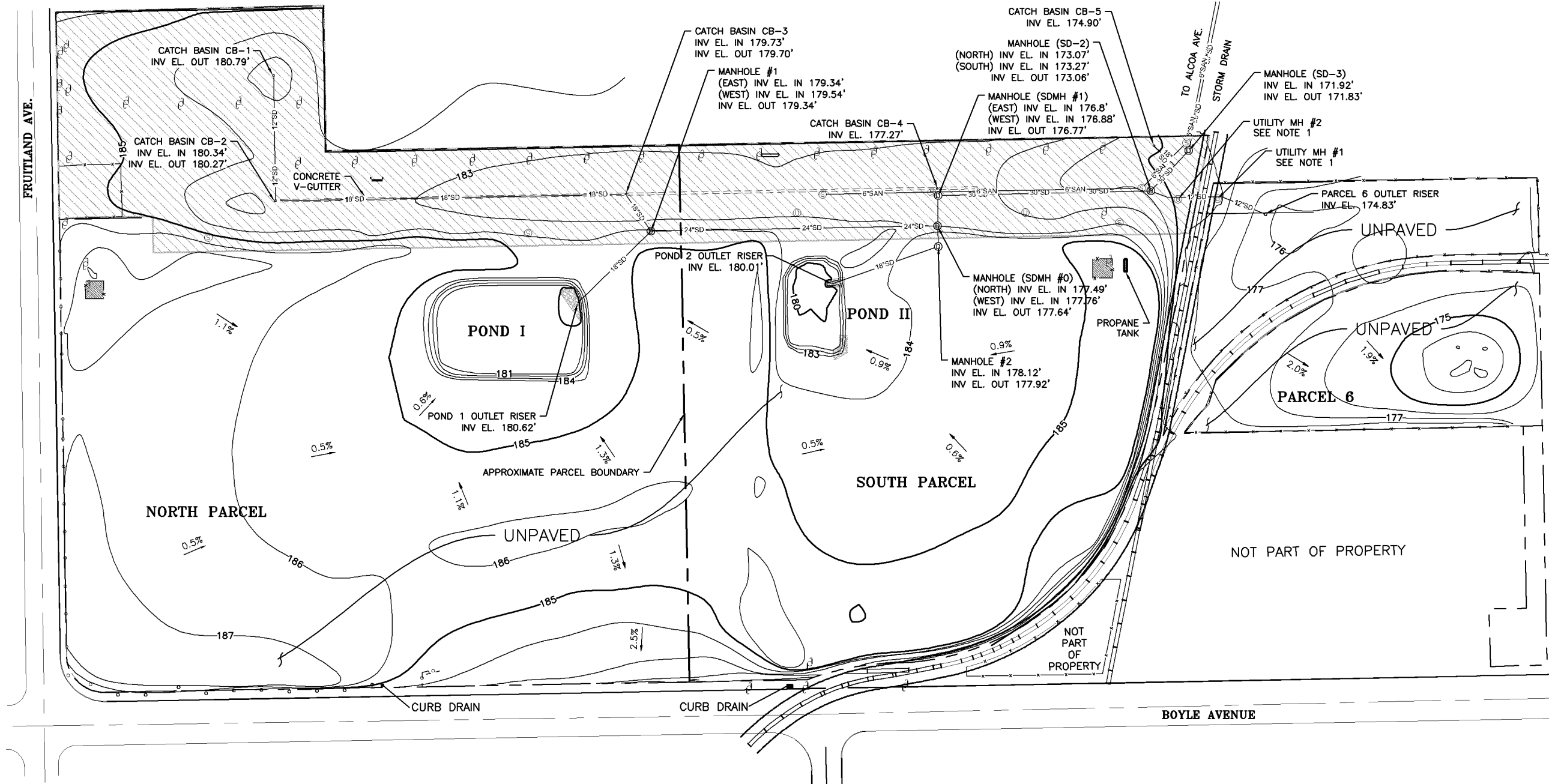


Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002;  
Aluminum Company of America "Works General-MPA" Figure dated October 10, 1984;  
Los Angeles County Assessor's Office Parcel Map 6310/Sheet 8 dated November 5, 1958;  
surveys conducted May 31, 2006 and June 6, 2006 by CalVada Surveyors; and surveys  
conducted October 12, 2011 and September 10, 2013 by Dulin & Boynton.

EXISTING GROUNDWATER MONITORING AND SOIL VAPOR EXTRACTION WELLS Former Pechiney Cast Plate, Inc. Facility 3200 Fruitland Avenue Vernon, California			
Date: 10/15/2015	Project No. 16027.003	Figure <b>3</b>	
Submitted By: lc	Drawn By: pah		



Plot Date: 10/15/2015 5:47:59 PM, Plotted by: pat.herring  
Drawing Path: Y:\10627\003\06cad\Reports-2015\Soil\_Mgt\_Report-2015-08-26\1b\_GRADING PLAN AsBuilt Pond II.dwg, Figure 5-Record Grading Plan



### Explanation

185 Elevation in feet above mean sea level

Ⓓ Manhole drainage

Ⓔ Manhole sewer

⓪ Manhole unknown

Ⓕ Power pole

—6" SAN— 6" Sanitary sewer pipe

—12" SD— 12" Storm drain pipe

—18" SD— 18" Storm drain pipe

—24" SD— 24" Storm drain pipe

—30" SD— 30" Storm drain pipe

--- Parcel boundary

— Major contour

— Minor contour

— Railroad track (at grade)

— x — Chain link fence

⊠ Soil vapor extraction treatment system compound

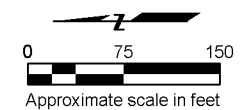
▨ Paved area

▤ Clean gravel

↘ 0.5% Grade of slope

### Notes:

1. The storm drain between utility MH #1 and utility MH #2 consists of a solid pipe that is elevated above the invert elevation of the existing utility manholes and connecting pipe between the manholes. the new storm drain pipe was elevated to facilitate slope to storm drain manhole (SD-2). the pipe is supported and anchored by casing spacers and solid concrete grout.
2. Design site topography was based on survey by Dulin and Boynton Surveyors, Inc. dated October 12, 2011, updated November 17, 2011, July 22, 2013, and November 20, 2014. Benchmark information is as follows: Vertical Datum NAVD88, County of Los Angeles BM #Y10598, 2" disc in walk 4.6' N/O CF, 14.8' W/O BCR at NE COR Slauson Ave and Boyle Ave (to the N) MKD (City of Vernon MON), 2005 ELEV = 168.611 Feet NAVD88, Horizontal Datum NAD83, Zone 5, NGS PID Stations AJ1840 and AJ1885 EPOCH DATE 2000.35.
3. Post construction site topography as delineated based on survey by Dulin and Boynton Surveyors, Inc. dated November 20, 2014 and updated March 18, 2015. Vertical and horizontal controls remain the same as those listed above.
4. All areas not paved with asphalt concrete are covered with crushed rock/concrete.
5. Sheet D-1 of RECORD GRADING PLAN, APRIL 2015, dated JUNE 22, 2015.



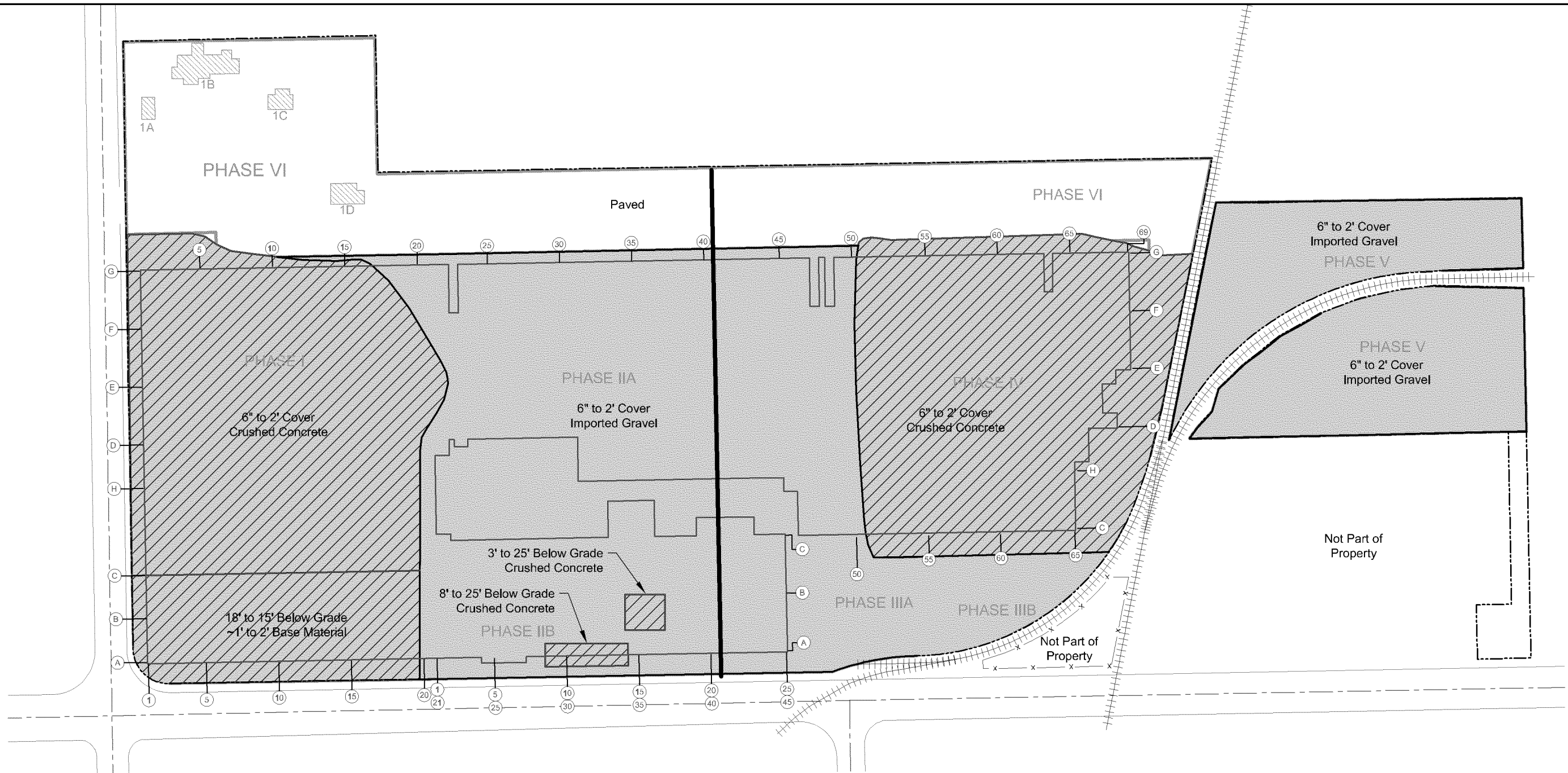
**POST-BELOW GRADE DEMOLITION  
SITE GRADE AND STORM WATER  
CONTROLS**  
Former Pechiney Cast Plate, Inc. Facility  
3200 Fruitland Avenue  
Vernon, California











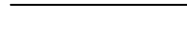

Date: 10/15/2015	Project No. 16027.003
Submitted By: lc	Drawn By: pah

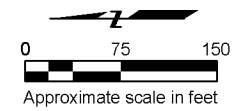
Figure  
**5**

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Drawing Path: Y:\10627 003 01cad\Reports-2015\Soil\_Mgt\_Report-2015-08-26\1b\_001-surface\_areas.dwg, Figure 6--Crushed Concrete Reuse Areas



#### Explanation

-  Area of crushed concrete
-  Area of imported gravel
-  Previously decommissioned and concrete capped buried structures (1A, 1B, and 1C) and concrete slab (1D) [Ursic, 1999]
-  Site boundary
-  Phase boundary
-  North-south parcel boundary
-  Chain link fence
-  Railroad tracks
-  Former building pad
-  Former building column and row numbering system



Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Aluminum Company of America "Works General-MPA" Figure dated October 10, 1984; Los Angeles County Assessor's Office Parcel Map 6310/Sheet 8 dated November 5, 1958; surveys conducted May 31, 2006 and June 6, 2006 by CalVada Surveyors; and surveys conducted October 12, 2011 and September 10, 2013 by Dulin & Boynton.

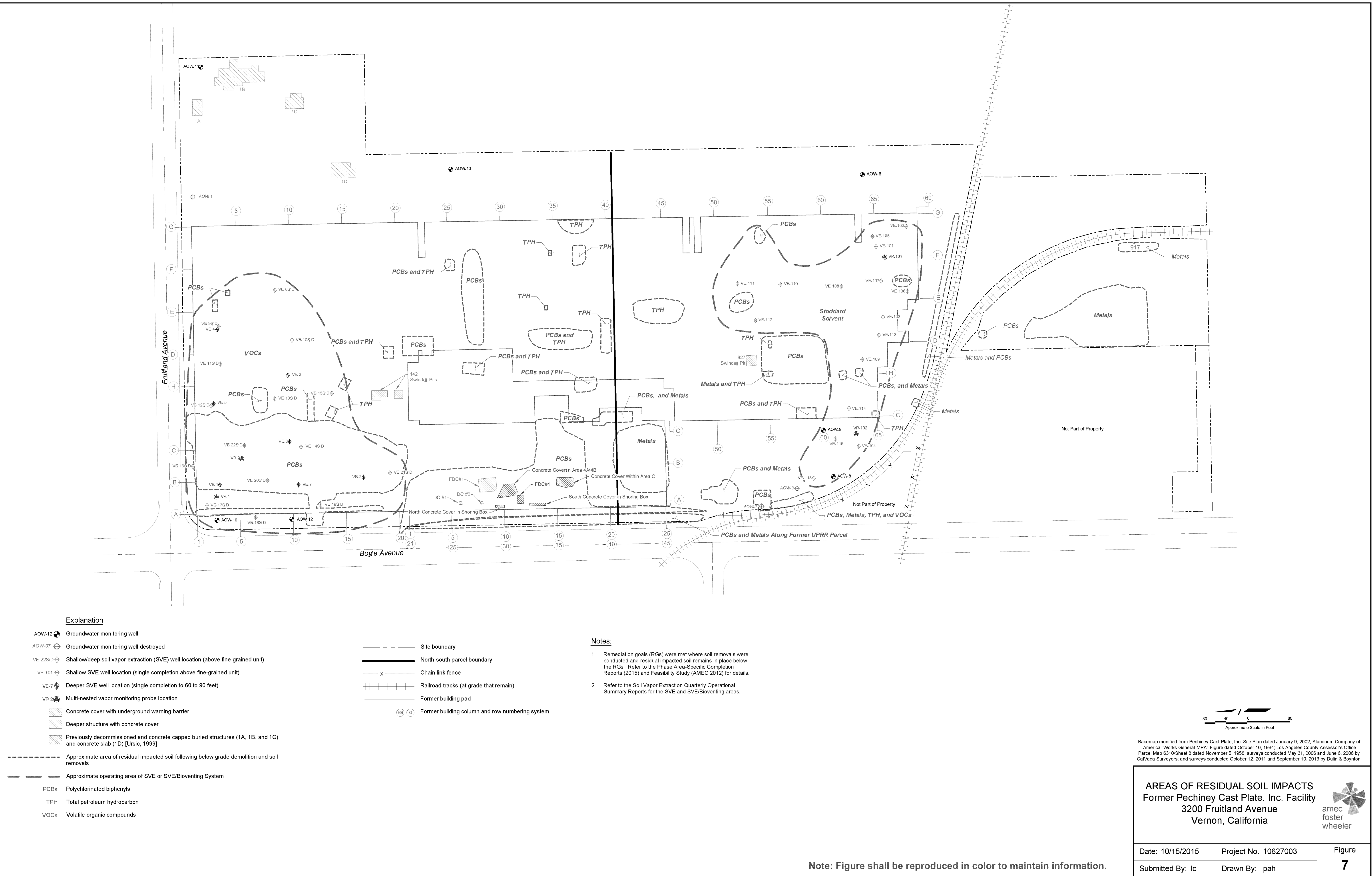
**AREAS WITH CRUSHED CONCRETE**  
Former Pechiney Cast Plate, Inc. Facility  
3200 Fruitland Avenue  
Vernon, California



Date: 10/15/2015	Project No. 16027.003
Submitted By: lc	Drawn By: pah

Figure  
**6**

Plot Date: 10/16/2015 3:11:11 PM. Plotted by: pat.herring  
Drawing Path: Y:\10627003\ACAD\REPORTS-2015\SOIL\_MST\_REPORT-2015-08-26\TE\_001-AREAS OF IMPACTED SOIL.DWG - Figure 7: Areas of Impacted Soil



## APPENDIX A

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